

NOTES AND DESCRIPTIONS OF NORTH  
AMERICAN STRATIOMYIDAE.

BY FRANK M. HULL, University of Mississippi.

I have been fortunate in collecting a number of additional species of North American Pachygasterinae in recent years and as there appear to be undescribed species in the material I present descriptions of these with notes upon others. The types are in the author's collection.

**Neopachygaster reniformis** n. sp.

These flies are similar to *N. maculicornis* Hine which I collected in Ohio and Iowa, but differ in the segregation of the brassy or silvery mesonotal scales into three obscure stripes, whereas they are uniformly and densely placed in the other species. There are numerous minute tubercles present upon the scutellum, absent in *maculicornis* Hine. As such tubercles have been given as a distinguishing character in part for the genus *Eupachygaster* by other students it appears that the new species may be intermediate between these genera. The eyes are separated in both sexes.

Length 3.7 mm. Antennae placed at the middle of the head in profile, or barely above. The antennae are short, the third joint globose or reniform, orange in color with white spots and the inner surface black centrally; arista pale. There is brilliant silvery pubescence upon the sides of the face and for a short distance along the margin above the antennae. Front shining black, punctate on either side, the middle smooth without impressed line. Mesonotum with thick, silvery scale-like pile, less dense than in *maculicornis*, and disposed as a median longitudinal stripe of pile, narrowly separated from the lateral areas of this pile; in the female this pile is pale yellowish or brassy. The pleura have a vertical middle band of silvery pile. Halteres with opaque, white knob. The scutellum is black, microtuberculate especially about the margin and more pronounced in the male; its pile in the male is conspicuously short-silvery scale like throughout but in the female pale in color basally, blackish in part near the apex. Abdomen of the short, globose type, wholly shining black with short, appressed, silvery or pale yellow pile. Legs yellowish-white, the femora, except their narrow base, and the apex black; pile short and silvery; coxae black except distally. Wings as in *maculicornis*;

basal portion of subcosta blackish and more pronounced in the male.

Holotype: a male; allotype: a female and twelve paratypes all from the University campus, Mississippi. Collected late in May 1940-41. This species appears to differ further from *maculicornis* in having the femora black centrally instead of brown. All of my series of *maculicornis* in both sexes have the femora much paler. In the males the silvery scutellar pile seems to come down and cover the rim; the black tubercles of *reniformis* are the prominent thing upon its margin.

#### *Eupachygaster punctifer* Malloch

Malloch described the female of this species and states in key that males of *Eupachygaster* have the eyes separated. I have specimens answering the description of *punctifer* from State College and from Oxford, Mississippi. The males, all from the latter place and only recently collected, have the eyes in the male practically touching yet actually very narrowly separated; they might be considered holoptic. My specimens are not in complete agreement with the scutellum figured by Malloch and it is possible that they are a different species.

#### *Eupachygaster henshawii* Malloch

I have several specimens that appear to be this species. They are a female from State College, a male and a female from Oxford, Miss. Like the preceding species the males are practically holoptic.

It differs from *punctifer* in the more shallowly sloping scutellum and in the absence of silvery scales upon the abdomen.

#### *Pachygaster flavipennis* n. sp.

Characterized by the bicolored wings, the apical half or more yellow, the base brown, which distinguish it from *pulcher* Loew.

Female. Length 3.8 mm. Antennae located a little below middle of head in profile, short, the third joint orange and much broader than long, its segments white lined; arista pale. The sides of the face below the antennae, except for a narrow midline, are densely yellowish-white pubescent; this pubescence extends a short distance above the antennae. Front shining black, punctate on either side, a prominent pit in the middle about midway. Thorax and pleura shining black, the mesonotum densely short, golden, appressed pilose, the pile set in microrugae; scutellum concolorous, its pile a little longer. Halteres light brown. Abdomen round, shining black, short,

very broad, quite convex. Its microscopic, short, erect pile is pale yellow. Legs light brownish-yellow, the femora except the apex, dark brown. Wings with the third vein furcate. A little more than the outer half of the wing and its veins are pale yellow; the basal portion and its veins smoky grey.

Holotype: one female, Puerto Castilla, Honduras. xi-21-1926 (R. H. Painter coll.)

This species appears to be undescribed and quite distinct.

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### NOTE ON THE MESOTHORACIC SPIRACLE OF THE MORMON CRICKET.

BY LEO W. TANNENBAUM, Amherst, Mass.

In a study at the Montana State College of the external morphology of the Mormon Cricket, *Anabrus simplex* Haldeman, it has been noticed that the spiracles and tracheae of the mesothorax are modified in an interesting manner. In the membrane between the propleuron and mesopleuron there may be seen two spiracular openings in close juxtaposition. The larger of the two openings is the posterior and it is guarded by numerous tiny setae. This large opening gives immediate entrance to an enlargement of the trachea. The smaller or anterior opening is guarded by two small sclerites. The posterior sclerite appears to be part of the peritremal sclerite of the posterior opening. The smaller opening gives immediate entrance to a small trachea. The tracheae of both entrances do not lead into a common chamber and are apparently in no way connected. The large opening and the enlargement of the trachea into which it leads is connected transversely with its fellow on the other side of the thorax by means of a very narrow trachea. From the body of the enlargement a large trachea leads directly to the front leg. This trachea is about one-third the diameter of the leg itself and extends down the leg past the auditory apparatus. The smaller trachea extends forward to the head where it branches. Midway between the head branches and the orifice it gives off another branch sharply in a ventral direction. This branch divides several times also. One of the subsidiary branches descends to the front leg and another to the long ventral tracheal chain. The above-mentioned modifications may exist more generally among Decticinae, since the outward manifestations have been noticed by the author in *Peranabrus*, *Pediectes* and *Atlanticus*.